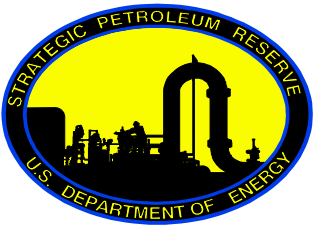


STRATEGIC PETROLEUM RESERVE

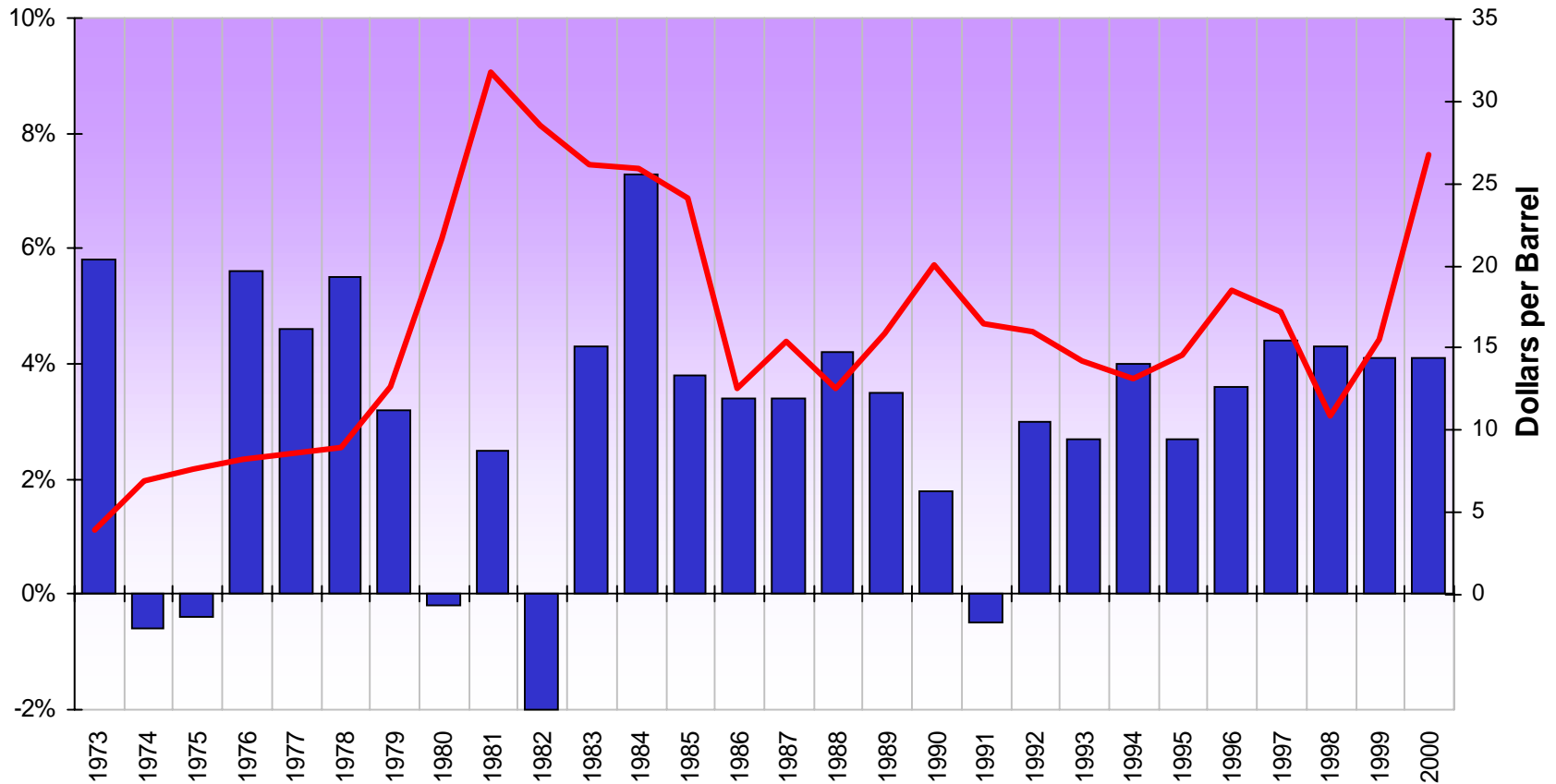
APEC WORKSHOP ON ENERGY SECURITY POLICY

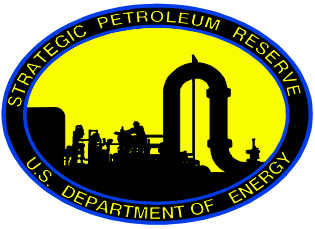


John Shages

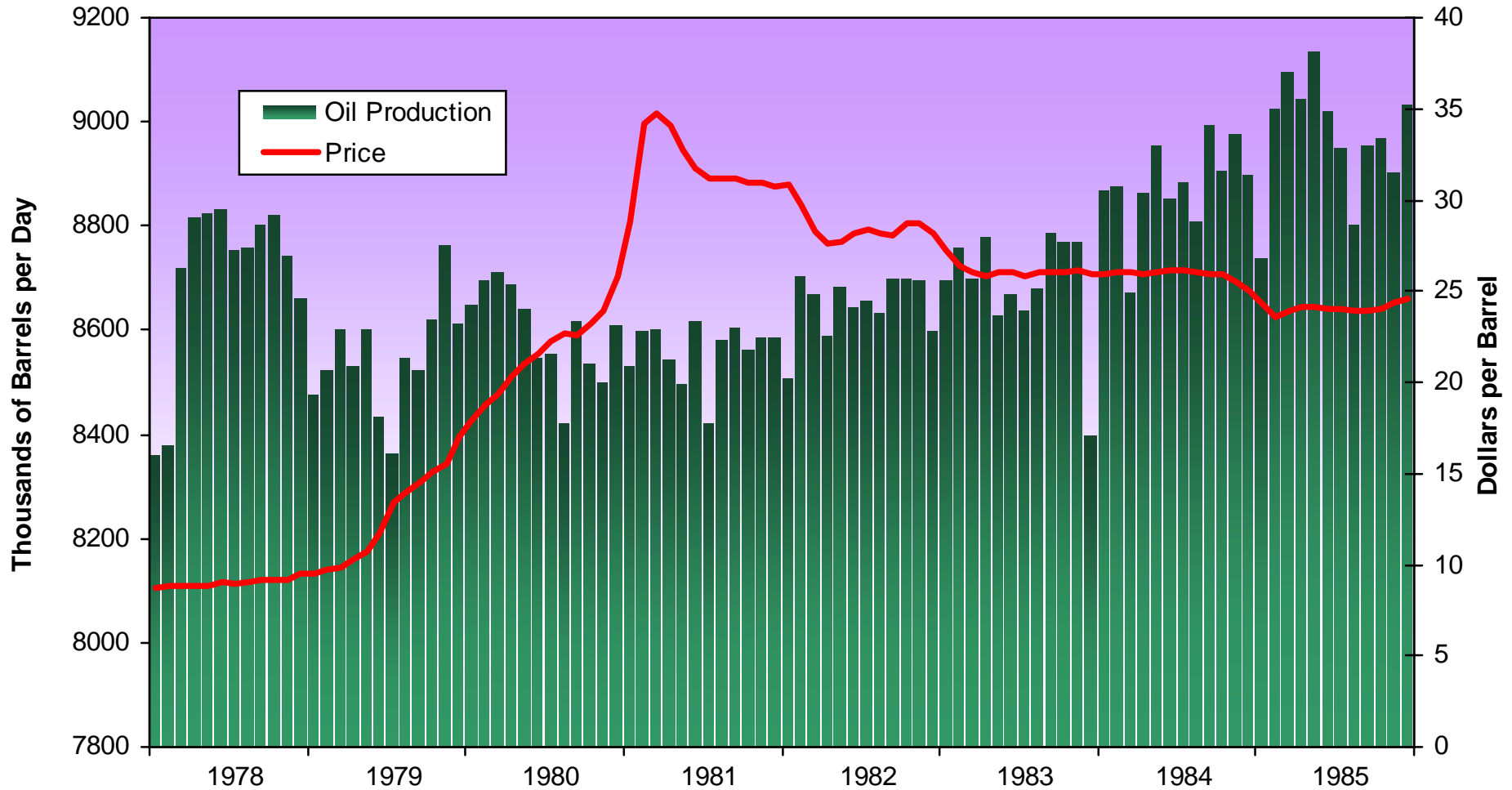


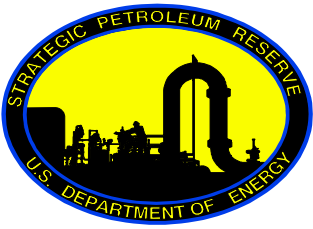
Gross Domestic Product Percent Change From Preceding Period (Seasonally Adjusted Annual Rates)





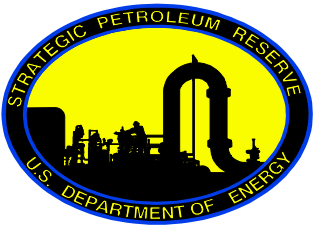
US Crude Oil Production And Wellhead Prices





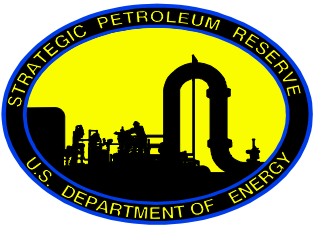
United States Policy on Responding to Oil Supply Disruptions

- The policy of the United States regarding oil supply disruptions is to rely on market forces to allocate supply, and to ordinarily supplement supply by the early drawdown of the Strategic Petroleum Reserve in large volumes and in coordination with our allies and trading partners.



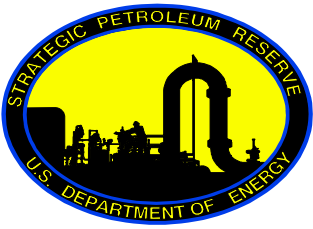
Critical Elements to Justify a Drawdown

- A Disruption Event
- Evidence of Supply Stress
- A Price Spike



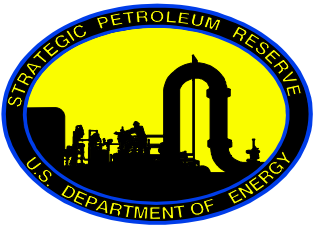
The Key To A Successful Strategic Reserve Is Cost Control

- The benefits come with a drawdown – but the number and extent of futures disruptions is unknown.
- Measuring the degree of damage from a disruption, and the consequent benefits of a petroleum reserve, to an individual economy is an uncertain science.
- Cost is the easiest aspect to control and has the highest probability of making the Reserve cost beneficial.



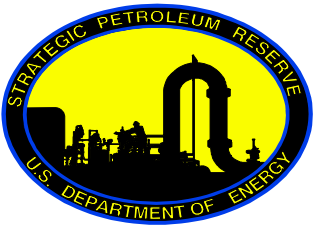
Major Cost Elements

- Capital Costs – Including land, facilities, and logistics systems.
- Maintenance Costs
- Oil Acquisition Costs



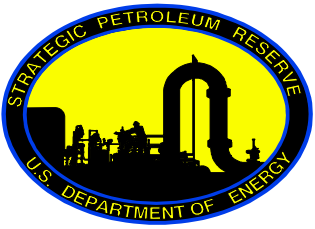
Capital Costs

- Dependent on location.
- Technology and type of storage facilities.
- Refer to the 1999 APERC Study supported by conceptual designs and cost estimates from PBKBB, Inc.

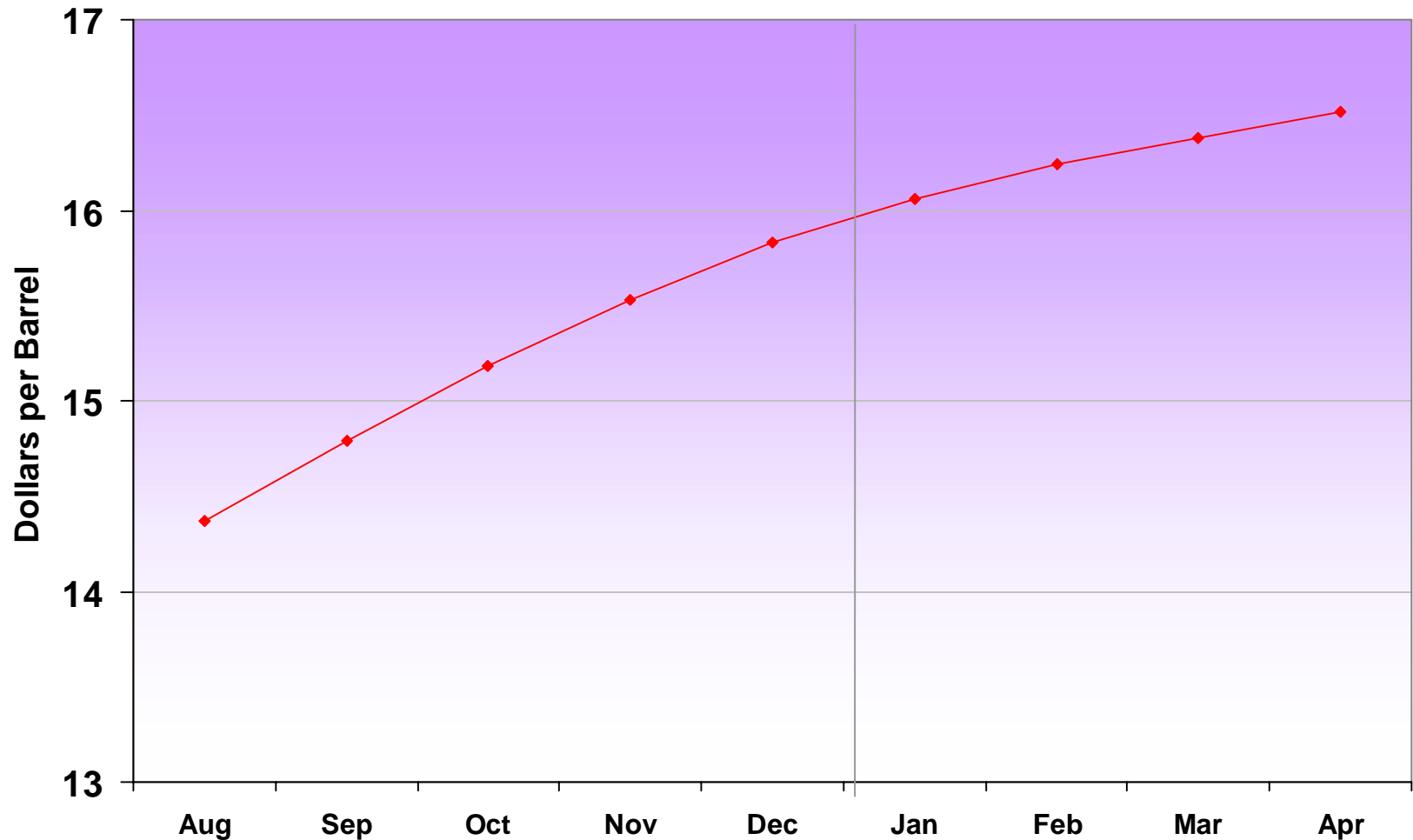


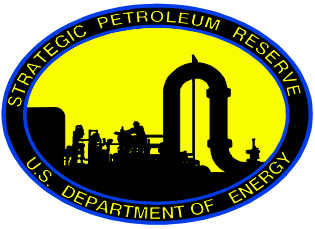
Lessons Learned to Control Oil Acquisition Costs

- Let the markets determine your buying pattern.
- Buy in weak markets.
- Delay deliveries during strong markets.
- Use your acquisition strategy to stabilize markets.

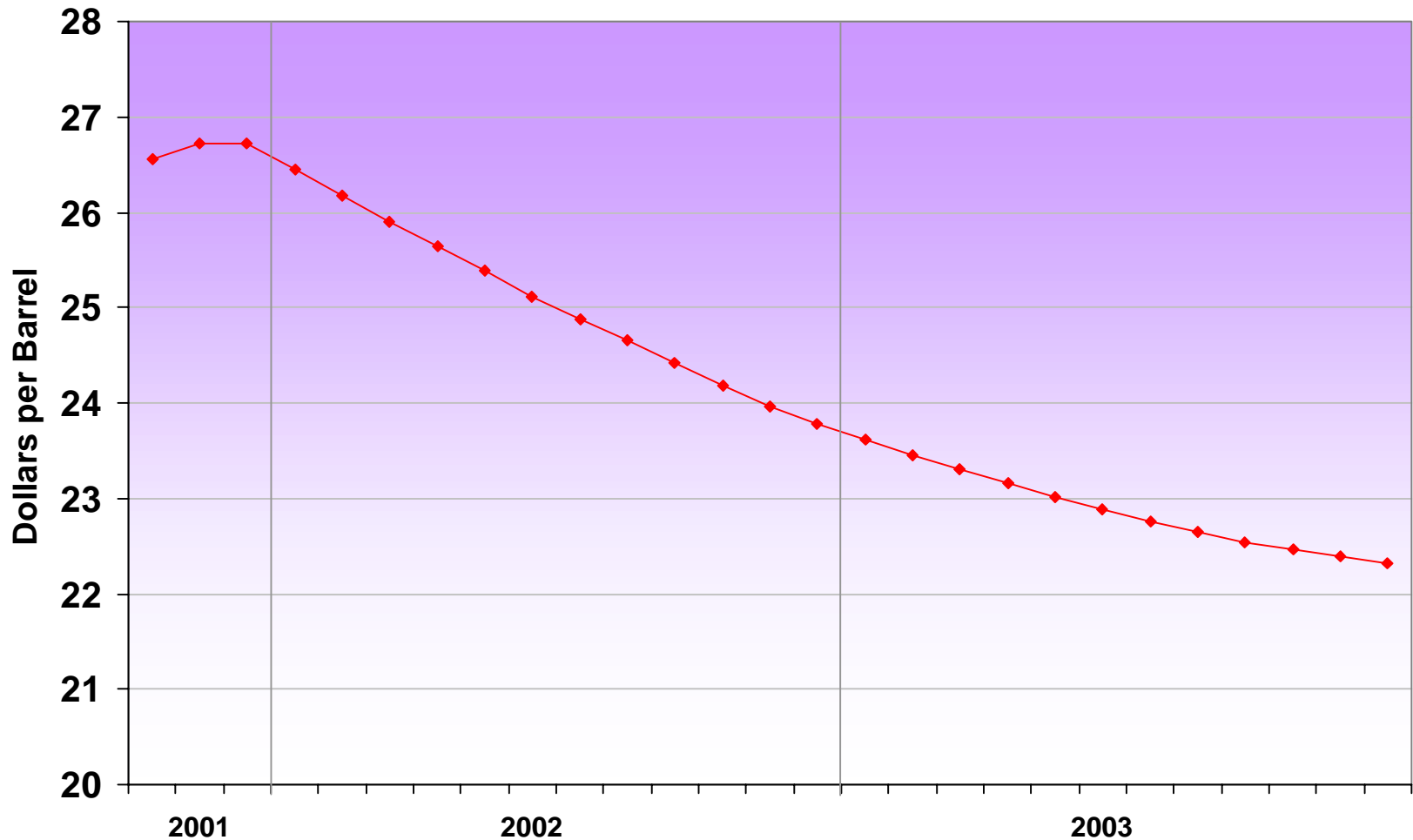


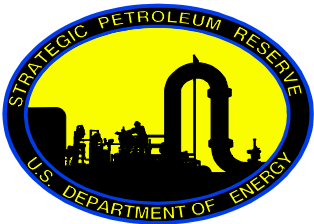
Example of "Contango" Futures Market NYMEX July 1, 1998 Closing Prices



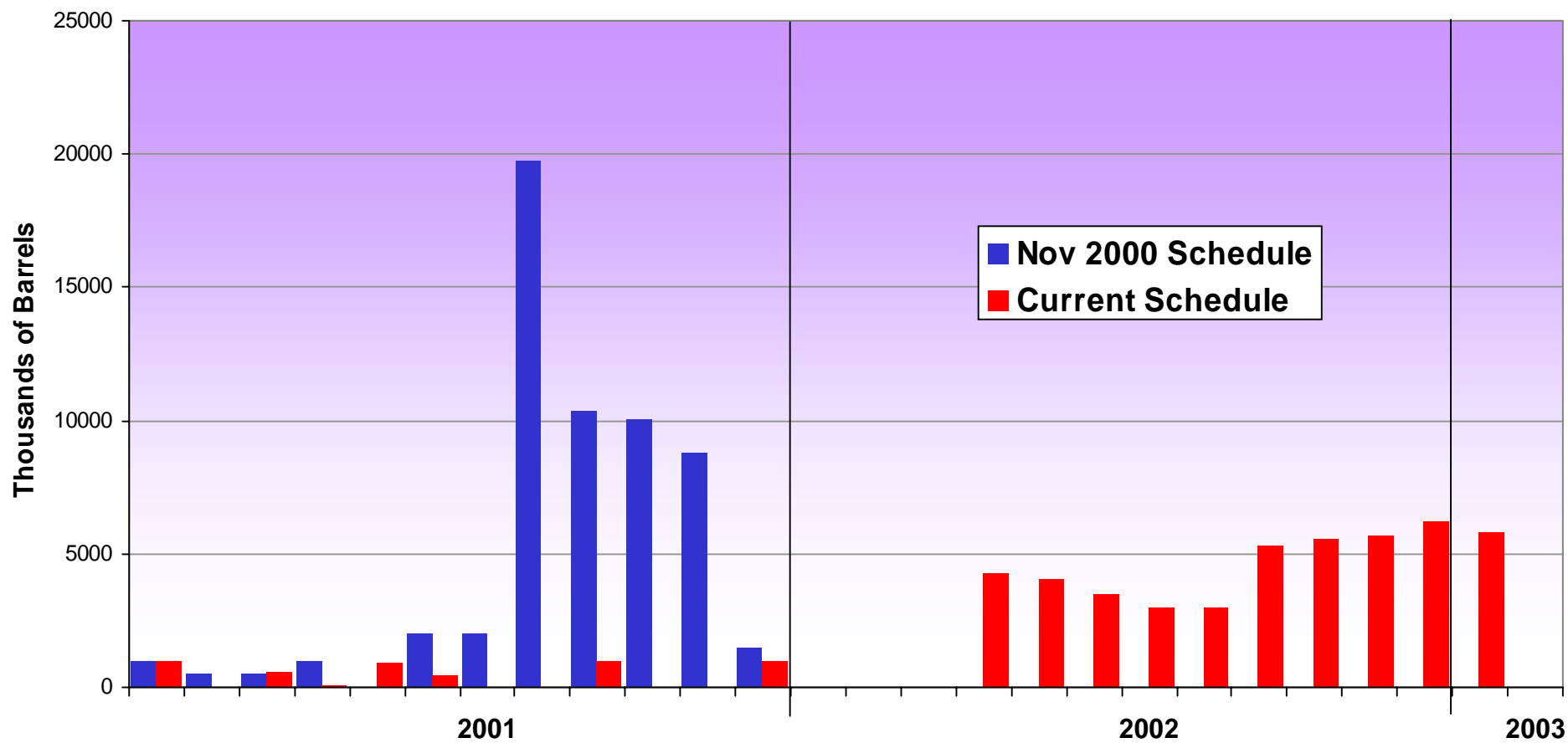


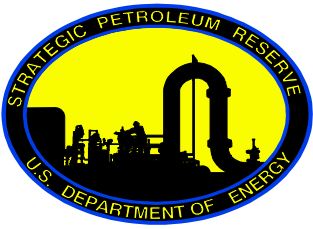
Example of "Backwardated" Futures Market NYMEX August 30 Closing Prices





SPR Delivery Schedule





NYMEX Price Differentials Near Month vs. One and Two Month Later

